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04 JAN 2005

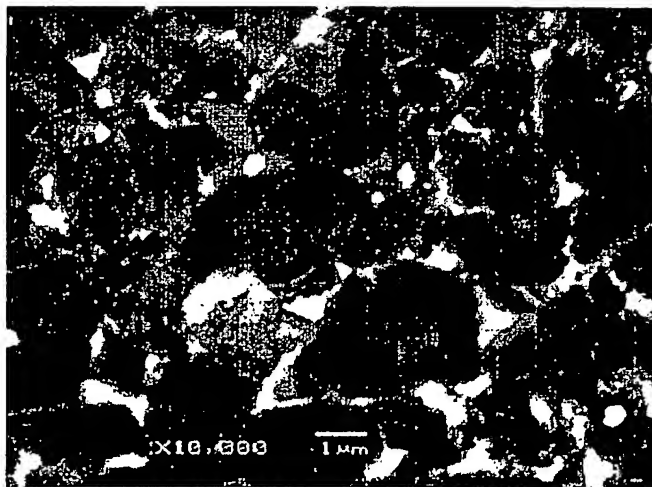


(43) International Publication Date  
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number  
**WO 2004/004954 A1**

- (51) International Patent Classification<sup>7</sup>: **B22F 3/00**
- (21) International Application Number:  
**PCT/KR2003/001202**
- (22) International Filing Date: 18 June 2003 (18.06.2003)
- (25) Filing Language: Korean
- (26) Publication Language: English
- (30) Priority Data:  
10-2002-0039276 8 July 2002 (08.07.2002) KR
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- (54) Title: **SINTERED BODY WITH HIGH HARDNESS FOR CUTTING CAST IRON AND THE METHOD FOR PRODUCING THE SAME**
- (74) Agent: **WONJON PATENT FIRM**; 8th Floor, Poonglim Bldg., 823-1, Yeoksam-dong, Kangnam-gu, Seoul 135-784 (KR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(57) Abstract: Disclosed is a sintered body with high hardness for cutting cast iron, which contains cubic boron nitride(CBN), high pressure phase nitride. The sintered body of the present invention is prepared by sintering cubic boron nitride powder and powder of bonding materials on a WC/Co based hard substrate, and by forming hard layer of polycrystalline cubic boron nitride(PCBN). The bonding materials are two or more of materials selected from the group composed of titanium, aluminum and nickel, and carbide thereof, nitride thereof, boride thereof and carbon nitride thereof, and mutual solid solution compound thereof. Volume fraction of the CBN in the PCBN hard layer is 80-98% by volume. By using the sintered body of the present invention it is possible to produce fine CBN powder with increased durability and thermal stability, improving the physical property of the product.

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## INTERNATIONAL SEARCH REPORT

International application No.

KR03/01202

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC7 B22F 3/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

C22C 29/00, C22C 29/16, C04B 35/58

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 Korean Patents and applications for inventions since 1975. Korean Utility models and applications for Utility models since 1975.  
 Japanese Utility models and applications for Utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 NPS, PAJ, PATROM

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 10-114575 A (SUMITOMODENKIGOGYO) 6 MAY 1998, see entire document.	1, 6
A	JP 2000-226262 A (SUMITOMODENKIGOGYO) 15 AUGUST 2000, see entire document.	1, 6
A	KR 85-8151 A (KAIST) 13 DECEMBER 1985, see entire document.	1, 6
A	KR 82-877 B (SUMIDOMO DENKK GOOGYO GABUSIKKGAISYA) 20 MAY 1982 see entire document.	1, 6

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

02 OCTOBER 2003 (02.10.2003)

Date of mailing of the international search report

02 OCTOBER 2003 (02.10.2003)

Name and mailing address of the ISA/KR



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